বিদ্যাসাগর বিশ্ববিদ্যালয়

VIDYASAGAR UNIVERSITY

Question Paper

B.Sc. Honours Examinations 2021

(Under CBCS Pattern)

Semester - V

Subject : NUTRITION

Paper : DSE 1 - T & P

Full Marks : 60 (Theory - 40 + Practical - 20)

Time : 3 Hours

Candidates are required to give their answers in their own words as far as practicable.
The figures in the margin indicate full marks.

[CHEMICAL SAFETY OF FOOD]

(Theory - 60)

Group-A

Answer any ***four*** questions from the following : 12×4=48

1. (a) Write down the mechanism of action of hormones in food. Write any two sources of carbamates. 4+2

   (b) What are the impacts of PAHs on human health? Briefly describe the quantification methods of PAHs. 3+3

2. (a) How different food contaminants contaminate the substances during packaging? Give any two examples of boiler water additives. 4+2

(b) What are the sources of heavy metals in food? Write its health impacts. 3+3

3. (a) Write short note on artificial sweeteners. 6

(b) Write down the detection procedure of nitrites in food. Write the health hazards of it. 3+3

4. (a) What do you mean by defoaming agents?

(b) Write the advantages and disadvantages of potassium bromate.

(c) Write the detection procedure of BHT. 4+4+4

5. (a) Mention the different legal guidelines on uses of sodium benzoate and sodium nitrate in food processing.

(b) Explain the action of autolysed yeast extract. 6+6

6. (a) Write short note on food additives.

(b) Write the health hazards of food colorants with examples. 6+6

7. (a) Write short note on radioactive isotopes.

(b) Write health hazards of stearyl tartarate and tara gum.

(c) Write the detection procedure of hydrogenated oil in food. 4+4+4

8. (a) Write the method of brilliant blue detection and quantification.

(b) Differentiate between emulsifiers and stabilizers.

(c) Write about health hazard of any one heavy metal. 4+4+4

Group-B

Answer any ***six*** questions from the following : 2×6=12

9. (a) Write any two health hazards of oxyhalides.

(b) How organo-halogens can be detected in food?

(c) Write the full forms of PAH and BHA.

(d) What do you mean by hydrolysed vegetable protein?

(e) Write any two differences between direct and indirect food contaminants.

(f) Write any two health hazards of carmine.

(g) Write the uses of steroids.

(h) What is soyabean hemicellulose?

(i) Write the sources of halo acetic acid contaminant in food.

(j) What do you mean by non-certified sweeteners.

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OR

[MICROBIOLOGICAL SAFETY OF FOODS]

(Theory - 60)

Group-A

Answer any *four* questions from the following : 12×4=48

1. What are the intrinsic factors that influence food spoilage and how do they exert their effects? Explain the features of mushroom poisoning. Write down the purpose of food preservation. 6+3+3

2. Describe the conditions for using UV light and gamma radiation for controlling the microbial growth in foods. What are microbial metabolites? What is the role of bacteriocin in food preservation? 3+3+6

3. Discuss about the major groups of chemical agents considered as ‘‘GRAS’’ in food preservation? Describe the thermal techniques of food preservation. How antibiotics act as a food hazards. 5+5+2

4. Write down about the causative agent of botulism and its prevention strategy. Describe ‘Hurdle technology’ with an example. 5+7

5. Write the importance of ‘‘Pasteurization’’ in food industry. Differentiate between pasteurization and sterilization. What do you meant by safety in food procurement? 5+4+3

6. Fungi are considered as the important spoilage organisms in fruits and vegetables. How? Differentiate between mycetismus and aflatoxicosis. What are metagenomics? 6+4+2

7. Describe the factors affecting growth of microorganism food. What is the importance of bacterial endospore in food processing industry? 6+6

8. What do you mean by food borne diseases? Mention its characteristics. What are the benefits of natural preservatives over chemical preservatives? 2+5+5

Group-B

Answer any ***six*** questions from the following : 2×6=12

9. (a) Name any two food-borne bacterial pathogens.

   (b) Mention the principle of irradiation that is used in food preservation.

   (c) What are the purpose of using molecular techniques in detection of food-borne pathogens?

   (d) How does commercial sterilization differ from complete sterilization?

   (e) Why is sodium nitrite used as meat preservatives?

   (f) What do you mean by UHT pasteurization?

   (g) What is the importance of "D" value in food industry?

   (h) How will you check the potability of drinking water?

   (i) What do you mean by GMP?

   (j) What is meant by PCR?

OR

[FOOD SANITATION & HYGIENE]

(Theory - 40)

Group-A

Answer any ***three*** questions from the following : 12×3=36

1. (a) Write the effects of micro-organism on food degradation.

   (b) Write in brief about saritation of microorganism?

   (c) What are the basic sanitation and food safety procedures? 4+4+4

2. (a) Write about food hazards from chemical agent.

   (b) State the importance of personal hygiene of food handler. 6+6

3. (a) 'Disinfection is less effective than sterilization'— Justify.

   (b) Discuss about the tests for measuring sanitizer strength.

   (c) State briefly the enviornmental effect on microbial growth. 3+4+5

4. (a) Write the causes and symptoms of food poisoning?

   (b) Write the mechanism of food poisoning prevention? 6+6

5. (a) Write about implementation of training programme for health personnel.

   (b) How water acts as a reservoir of infection? 8+4

6. (a) Write about sterilization and disinfection?

   (b) Write the use of pesticides for rodent controls. 6+6

Group-B

Answer any ***two*** questions from the following : 2×2=4

7. (a) Write the names of any four causing agents of food borne diseases.

   (b) Write the full forms of FSSAI and HACCP?

   (c) What is cross contamination?

   (d) What is sanitation?

(Practical : Marks - 20)

Group-A

1. Answer any ***one*** out of the following : 15×1=15

   (a) Write the principle and preparation procedure of Jam/Jelly step by step.

   (b) Write briefly on personal and environmental hygiene habit of street food handler.

   (c) Write any one vegetable based food preservation technique.

Group-B

2. Answer any ***one*** out of the following : 5×1=5

   (a) Write the health benefit of squash.

   (b) Write the process of pickle preparation.

   (c) Laboratory note book and viva-voce.